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(54) Title: **NANOCOMPOSITES BASED ON POLYURETHANE OR POLYURETHANE-EPOXY HYBRID RESINS  
PREPARED AVOIDING ISOCYANATES**

(57) Abstract: A fast curable non-isocyanate-based polyurethane- and polyurethane-epoxy network nanocomposite polymeric com-  
positions are derived upon crosslinking a mixture comprising of natural or modified nano-clay [ionic phyllosilicate] with platelet  
thickness in the scale of A (~1 nm) and aspect ratio (length/thickness) higher than 10 (nm)] preferably natural or modified montmo-  
rillonite with either a monomer(s) or oligomer(s) bearing at least one cyclocarbonate group or a mixture of the latter with an epoxy  
resin, with a hardener, which is a monomer or oligomer or mixtures therefrom, bearing primary and/or secondary amino groups. The  
use of the nanoclays reduces the gel time and increases the adhesion of the cured polyurethane and polyurethane/epoxy hybrid and  
also reduces its water absorption.



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